REPORT No. 246

TABLES FOR CALIBRATING ALTIMETERS AND COMPUTING ALTITUDES BASED ON THE STANDARD ATMOSPHERE

By W. G. BROMBACHER
Bureau of Standards

REPORT No. 246

TABLES FOR CALIBRATING ALTIMETERS AND COMPUTING ALTITUDES BASED ON THE STANDARD ATMOSPHERE

By W. G. Brombacher

SUMMARY

This report was prepared by the Aeronautic Instruments Section of the Bureau of Standards under research authorization formulated and recommended by the subcommittee on aerodynamics and approved by the National Advisory Committee for Aeronautics.

During 1925 the assumption of an isothermal atmosphere which was in general use as the standard for the calibration of altimeters in the United States was replaced by a standard atmosphere which assumes an altitude-temperature relation closely corresponding to the average of upper air observations at latitude 40° in this country. The same standard atmosphere had already been adopted somewhat earlier in the United States as the aircraft performance standard.

National Advisory Committee for Aeronautics Technical Reports Nos. 147 and 218 give necessary constants, tables, and information. However, neither of these reports includes all of the tables required for the computation of actual altitudes nor those readily suitable for use in calibrating altimeters, since the altitude intervals for which data are given are not sufficiently small. The present report has been prepared specifically for these purposes.

The formulas which define the standard atmosphere are given in this report, together with other formulas giving the corrections to be applied to the standard altitude in order to obtain the actual altitude when the necessary observations of pressure and temperature are available.

The tables necessary for the use of this standard atmosphere in calibrating altimeters and in computing altitudes form the principal part of this report. In Table I are given the standard altitudes at pressure intervals of 0.1 millimeter of mercury in the range 87 to 200 millimeters of mercury and at intervals of 0.2 millimeter of mercury in the range 200 to 790 millimeters of mercury. In Table II standard altitudes are given at intervals of 0.01 inch of mercury in the range 3.4 to 31.09 inches of mercury. In Table III are given the pressure in inches and millimeters of mercury, the temperature, the mean temperature, and the corresponding isothermal altitude at every 500-foot interval of standard altitude in the range −1,000 to +50,000 feet. Temperature corrections for use in computing altitudes from observed pressures and temperatures are given in Table IV.

An example of the computation of actual altitude from the necessary observations of pressure and temperature is also included.

INTRODUCTION

In the isothermal atmosphere which had been used for calibrating altimeters in the United States previous to 1925 the air is assumed to be at a temperature of +10° C. at all altitudes. (Reference 1.) This atmosphere represents average atmospheric conditions quite accurately up to an altitude of approximately 12,000 feet, and hence, as long as aircraft did not exceed this altitude, the altimeter reading was an approximate measure of the actual altitude. The ceiling of aircraft now far exceeds 12,000 feet, and on account of the low temperatures corresponding to these altitudes the assumption of an isothermal atmosphere at +10° C. no longer even approximates the actual average conditions, so that altimeters calibrated to this atmosphere no longer closely approximate the actual conditions.

A new altimeter calibration standard approximating average atmospheric conditions up to at least 50,000 feet was proposed at a conference held in December, 1924, at which the following organizations were represented: Bureau of Aeronautics of the United States Navy, Air Service of the United States Army, National Advisory Committee for Aeronautics, Bureau of Standards, United States Weather Bureau, and the National Aeronautic Association. The standard atmosphere which was proposed by this conference for use as an altimeter calibration standard has since been adopted by the organizations represented at this conference.

THE NEW STANDARD ATMOSPHERE

The standard atmosphere adopted as the new altimeter calibration standard has also been adopted as the standard for aircraft performance in the United States. The standard atmosphere is defined by an altitude-temperature-pressure relation in which an arbitrary altitude-temperature relation is assumed. The altitude-temperature assumption of this standard, a slight modification of that proposed by Toussaint (Reference 2), is extremely simple and approximates the average observed variation of temperature with altitude at latitude 40° in the United States (Reference 3). The standard atmosphere is defined completely in National Advisory Committee for Aeronautics Technical Report No. 218, "Standard Atmosphere—Tables and Data," by W. S. Diehl. The important formulas in this last report are also given here for the sake of completeness, together with the expression for the temperature correction to be used in computing actual altitudes from pressure and temperature observations. Absolute temperatures are equal to centigrade temperatures plus 273.

Symbols relating to the standard atmosphere:

Z=Standard altitude.
Z_{55}=Altitude at the lower limit of the isothermal layer.
T=Absolute temperature of the air at altitude Z.
T_o=Standard sea level temperature in degrees absolute.
T_m=Mean temperature of the air column below altitude Z in degrees absolute.
T_{m55}=Mean temperature in degrees absolute for Z_{55}.
p=Pressure of the air at altitude Z.
p_o=Standard sea level pressure.

Symbols relating to actual observations:

H=Actual altitude.
T_{ma}=The mean temperature, computed from observations, in degrees absolute.
C=Altitude correction due to deviation of the actual from the standard mean temperature.
p=Pressure of the air at altitude H.
p_o=Standard sea level pressure.

Formulas relating to standard atmosphere:

(*a*) Up to the isothermal layer—

$$T=288-aZ \tag{1}$$

$$T_o=288^\circ \text{ absolute}$$

$$T_m=\frac{aZ}{\log_e \frac{T_o}{T_o-aZ}} \tag{2}$$

a=0.0065000 for Z in meters,
=0.0019812 for Z in feet.

(*b*) At the lower limit of the isothermal layer—

$$T=-55^\circ \text{ C.}=218^\circ \text{ absolute}, \tag{3}$$

Z_{55}=35,332 feet=10,769 meters,
T_{m55}=251.378° absolute.

Formulas relating to standard atmosphere—Continued.

(*c*) In the isothermal layer—

$$T=-55^\circ \text{ C.}=218^\circ \text{ absolute.} \tag{4}$$

$$T_m=\frac{Z}{\frac{Z_{55}}{T_{m55}}+\frac{Z-Z_{55}}{218}} \tag{5}$$

(*d*) For all standard altitudes—

$$Z=K\frac{T_m}{T_o}\log_{10}\frac{p_o}{p} \tag{6}$$

(*e*) For computing actual altitudes—

$$H=Z+C \tag{7}$$

$$H=K\frac{T_{ma}}{T_o}\log\frac{p_o}{p} \tag{8}$$

$$C=K\frac{T_{ma}-T_m}{T_o}\log\frac{p_o}{p}$$

$$=63{,}691.8\frac{T_{ma}-T_m}{T_o}\log\frac{p_o}{p}\text{ feet.} \tag{9}$$

$$=\frac{T_{ma}-T_m}{T_m}Z.$$

(*f*) For formulas (6) and (8)—

K[1]$=19{,}413.3$ for Z in meters.

$=63{,}691.8$ for Z in feet.

$p_o=760$ mm of Hg.$=29.921$ in Hg.

p is in same unit of pressure as p_o.

Attention should be called to the fact that whether the mean temperature T_{ma} in formula (8) is an harmonic or an arithmetic mean depends entirely on the data from which T_{ma} is to be computed. If the air temperatures are available for different *actual altitudes* then the harmonic mean temperature must be computed (Reference 4). This case occurs only infrequently. *When the actual altitude is to be computed from the following data obtained in flight, the arithmetic mean is invariably used.* If the air temperatures corresponding to various pressures are observed, then the temperatures may be plotted against $\log p$ or $\log\frac{p_o}{p}$ for determining the mean. If instead, the altitudes indicated by an altimeter calibrated to an isothermal calibration standard are available, then the temperatures may be plotted against these altitudes directly. An example of this method of computation is given under the heading "Computation of Altitude from Pressure and Temperature Observations." If altitudes indicated by an altimeter calibrated to the new calibration standard are given, these altitudes should be converted to isothermal altitudes by means of Table III and the temperatures plotted against these isothermal altitudes.

DESCRIPTION OF THE TABLES

The method of computing the tables was as follows: For even standard altitudes differing by 500 feet in the range $-1{,}000$ to $+50{,}000$ feet, the air temperatures, mean temperatures, and then the pressures were computed to six significant figures. The results were checked by

[1] The values of K adopted for the altimeter calibration standard differ in the last place from the values given in N. A. C. A. Technical Report No. 218, but the differences are small enough to be ignored.

the method of differences. The standard altitude was then computed to one digit beyond those given in the table for the pressure range of Table I for every millimeter of mercury. The mean temperatures corresponding to every millimeter of mercury were secured from graphs of the computations of the mean temperatures and pressures for the 500-foot intervals of altitude. The altitudes corresponding to the values of pressure in tenths millimeters of mercury were found by interpolation. The altitude-pressure table with the pressures in inches of mercury was obtained by conversion and interpolation. All tables were checked by the method of differences. The accuracy of computation of Tables I and II is within 1 foot at the lower altitudes and 2 feet at the higher altitudes.

Table I.—Altitudes are given at pressure intervals of 0.1 millimeter of mercury in the range 87 to 200 millimeters of mercury and at intervals of 0.2 millimeter of mercury in the range 200 to 790 millimeters of mercury.

Table II.—Altitudes are given at pressure intervals of 0.01 inch of mercury in the range 3.4 to 31.09 inches of mercury.

Table III.—The pressures in inches of mercury and millimeters of mercury are given for every 500-foot interval for the range $-1{,}000$ to $+50{,}000$ feet. The temperature of the air at the altitude and the mean temperature of the air column below the altitude are also given for each altitude. Furthermore, the altitudes corresponding to the pressures are also given for an isothermal atmosphere at a temperature of $+10°$ C. The values of the latter are rounded off to the nearest 10 feet. Since the values of the pressures are rounded off from computations extending to six significant figures, it will be found that the pressures in inches and in millimeters do not always exactly correspond.

Table IV.—The temperature corrections (to be added algebraically to a standard altitude Z to give actual altitude H when the actual mean temperature differs from that of the standard atmosphere) are given for a useful range of mean temperature for each 2,000-foot interval of standard altitude up to 50,000 feet.

COMPUTATION OF ALTITUDE FROM PRESSURE AND TEMPERATURE OBSERVATIONS

Standard altitude.—The atmospheric pressure is measured simultaneously by suitable means at the surface of the earth and at the level of the aircraft. The standard altitude above the ground level is obtained by subtracting the altitude corresponding to the pressure at the surface from that corresponding to the free air pressure at the aircraft level, as given in either Table I or II.

Temperature correction.—The actual mean temperature of the air column extending from the ground to the level of the aircraft will rarely be the same as the corresponding mean temperature for the standard atmosphere. In computing altitudes accurately it is necessary to determine the actual mean temperature and to apply a correction to the indicated or standard altitude depending on this temperature. (Reference 5.)

To obtain the actual mean temperature of the air column the temperature of the free air at successive levels should be plotted against corresponding values of $\log \frac{p_o}{p}$ (or $\log p$) If the observations of temperature correspond to values of p obtained from an aneroid barometer, it is convenient to plot values of $\log p$ as abscissas. The altitudes indicated by an altimeter calibrated to the old isothermal standard are proportional to $\log \frac{p_o}{p}$, and so if such altimeter readings form part of the observations they can be plotted directly. If altitudes indicated by an altimeter calibrated to the new standard given in this paper form part of the observations, these altitudes should be converted to isothermal altitudes by means of Table III of this report (or more easily by either Table I or Table II of this report and Bureau of Standards Aeronautic Instruments Circular No. 3) before being plotted. The curve thus obtained is subdivided into equal divisions of isothermal altitude (or $\log p$). The number of divisions is determined largely by the number of observations and the accuracy of the data. The arithmetic mean of the air temperatures at the middle of each altitude division gives the actual

mean temperature. The correction in Table IV corresponding to the mean temperature thus found and to the standard altitude is the desired temperature correction. *The correction must be obtained by interpolation between the next higher and the next lower altitudes in Table IV.*

Actual altitude.—The actual altitude H is the sum of the standard altitude and the temperature correction, proper attention being given to the sign of the latter. See equation (7).

EXAMPLE OF THE COMPUTATION OF ACTUAL ALTITUDE

Data.—Pressure of air at surface: 29.54 inches of mercury.
Elevation of surface above sea level= 800 feet.
Pressure of air at level of aircraft: 12.22 inches of mercury.
Temperature observations (from the log of a flight).

Isothermal altitude	Free air temperature	Isothermal altitude	Free air temperature
Feet	° *C.*	*Feet*	° *C.*
0	+28	12, 000	5
1, 000	23	13, 000	2. 5
2, 000	20	14, 000	+2
3, 000	18	15, 000	−1
4, 000	15	16, 000	−1
5, 000	12	17, 000	−4
6, 000	11	18, 000	−6
7, 000	11	21, 000	−11
8, 000	11	22, 000	−13
9, 000	9	23, 000	−14
10, 000	8	24, 000	−17
11, 000	7	24, 200	−18

Computations.—The temperatures have been plotted against isothermal altitude in Figure 1. The graph has been divided into 2,000 foot intervals and the mean temperature of the intervals determined by inspection and listed below:

Isothermal altitude interval	Mean temperature of interval	Isothermal altitude interval	Mean temperature of interval
Thousand feet	° *C.*	*Thousand feet*	° *C.*
0–2	+23. 5	14–16	0. 0
2–4	17. 5	16–18	−4. 0
4–6	12. 5	18–20	−7. 5
6–8	11. 0	20–22	−11. 0
8–10	9. 5	22–24	−14. 5
10–12	7. 0	24–24. 2	−17. 5
12–14	+3. 0		

Sum of the mean temperatures of the intervals 0–24,000 feet	+47. 0
Mean temperature of air column below 24,000 feet, in °C$=\frac{47.0}{12}$	+3. 9
Mean temperature of air column below 24,200 feet=+3.9, in °C$-\frac{0.2\times17.5}{24.2}$	+3. 8
Altitude corresponding to 12.22 in. Hg. (Table II)	22, 775
Altitude corresponding to 29.54 in. Hg. (Table II)	+354
Standard altitude, in feet	22, 421
Temperature correction corresponding to +3.8° C. and 22,421 feet (Table IV)	+986
Actual altitude above surface	23, 407
Elevation of ground surface	+800
Actual altitude above sea level, in feet	24, 207

REFERENCES

1. Bureau of Standards: "Altitude-Pressure Tables." Aeronautic Instruments Circular No. 3, Third Edition, 1920.

2. Toussaint, A.: "Study of the Performance of an Airplane Fitted with a Supercharged Engine." L'Aeronautique, October, 1919.

3. Gregg, W. R.: "Standard Atmosphere." N. A. C. A. Technical Report No. 147, 1922. See this reference for comparison of the standard temperatures and observed temperatures.

4. Brombacher, W. G.: "The Determination of Altitude of Aircraft." Journal of the Optical Society of America and Review of Scientific Instruments, page 739, volume 7, 1923.

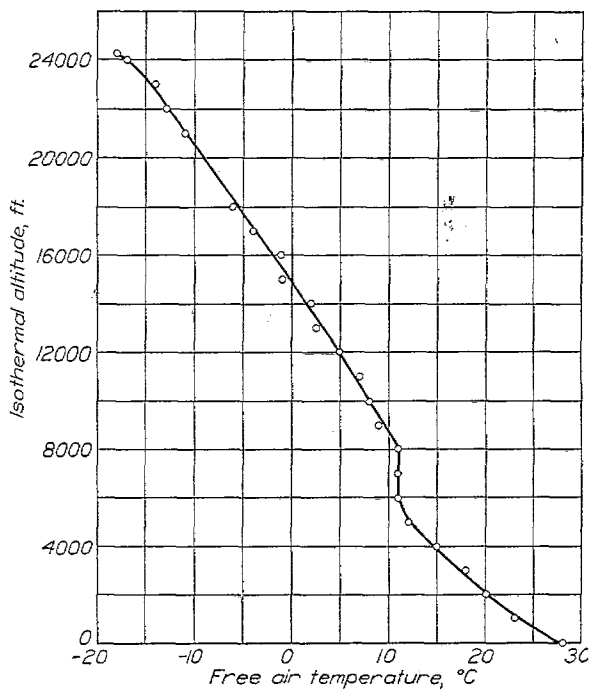

FIG. 1

5. Aeronautic Instruments Section, Bureau of Standards: "Aircraft Instruments." The Ronald Press Co., New York, 1926.

TABLE I

ALTITUDE-PRESSURE TABLE—FEET-MILLIMETERS

p mm.	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
87	50073	50049	50025	50001	49977	49953	49929	49905	49881	49857
88	49833	49810	49786	49762	738	715	691	667	644	620
89	596	573	550	526	503	479	456	433	409	386
90	362	339	316	293	270	247	49223	49200	49177	49154
91	49131	49108	49085	49062	49039	49016	48994	48971	48948	48925
92	48902	48879	48857	48834	48812	48789	766	744	721	698
93	676	653	631	609	586	564	541	519	497	474
94	452	430	407	385	363	341	319	297	275	252
95	230	48208	48186	48164	48143	48121	48099	48077	48055	48033
96	48011	47989	47968	47946	47924	47902	47881	47859	47837	47816
97	47794	773	751	730	708	687	665	644	622	601
98	579	558	537	516	494	473	452	431	409	388
99	367	346	325	304	283	262	241	220	47199	47178

TABLE I—Continued

ALTITUDE-PRESSURE TABLE—FEET-MILLIMETERS—Continued

p mm.	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
100	47156	47136	47115	47094	47073	47052	47032	47011	46990	46969
101	46948	46928	46907	46886	46866	46845	46824	46804	783	763
102	742	721	701	681	660	640	619	599	579	558
103	538	517	497	477	457	436	416	396	376	355
104	335	315	295	275	255	235	215	46195	46175	46155
105	46135	46115	46095	46075	46055	46036	46016	45996	45976	45956
106	45936	45917	45897	45877	45858	45838	45819	799	779	760
107	740	721	701	682	662	643	623	604	584	565
108	545	526	507	487	468	449	430	410	391	372
109	352	333	314	295	276	257	238	218	199	45180
110	45161	45142	45123	45104	45085	45066	45047	45028	45010	44991
111	44972	44953	44934	44915	44896	44878	44859	44840	44821	803
112	784	765	747	728	709	691	672	654	635	616
113	598	579	561	542	524	506	487	469	450	432
114	413	395	377	358	340	322	304	285	267	249
115	230	212	194	44176	44158	44140	44122	44103	44085	44067
116	44049	44031	44013	43995	43977	43959	43941	43923	43905	43887
117	43869	43851	43834	816	798	780	762	744	727	709
118	691	673	656	638	620	603	585	567	550	532
119	514	497	479	462	444	427	409	392	374	357
120	339	322	304	287	270	252	235	217	200	183
121	43165	43148	43131	43113	43096	43079	43062	43044	43027	43010
122	42993	42976	42958	42941	42924	42907	42890	42873	42856	42839
123	822	805	788	771	754	737	720	703	686	669
124	652	635	618	602	585	568	551	534	517	501
125	484	467	450	434	417	400	384	367	350	334
126	317	300	284	267	251	234	218	201	184	168
127	42151	42135	42118	42102	42086	42069	42053	42036	42020	42004
128	41987	41971	41954	41938	41922	41906	41889	41873	41857	41840
129	824	808	792	776	759	743	727	711	695	679
130	662	646	630	614	598	582	566	550	534	518
131	502	486	470	454	438	422	406	390	375	359
132	343	327	311	295	279	264	248	232	216	200
133	185	169	41153	41138	41122	41106	41091	41075	41059	41043
134	41028	41012	40997	40981	40966	40950	40934	40919	40903	40888
135	40872	40857	841	826	811	795	780	764	749	733
136	718	703	687	672	657	641	626	611	595	580
137	565	549	534	519	504	488	473	458	443	428
138	412	397	382	367	352	337	322	307	292	276
139	261	246	231	216	201	186	171	156	40141	40126
140	40111	40096	40081	40067	40052	40037	40022	40007	39992	39977
141	39962	39947	39933	39918	39903	39888	39873	39859	844	829
142	814	800	785	770	755	741	726	711	697	682
143	667	653	638	623	609	594	580	565	550	536
144	521	507	492	478	463	449	434	420	405	391
145	376	362	348	333	319	304	290	276	261	247
146	232	218	204	190	175	161	147	39132	39118	39104
147	39090	39075	39061	39047	39033	39018	39004	38990	38976	38962
148	38948	38933	38919	38905	38891	38877	38863	849	835	821
149	806	792	778	764	750	736	722	708	694	680
150	666	652	639	625	611	597	583	569	555	541
151	527	514	500	486	472	458	444	431	417	403
152	389	376	362	348	334	321	307	293	280	266
153	252	238	225	211	198	184	170	157	143	38129
154	38116	38102	38089	38075	38062	38048	38035	38021	38007	37994
155	37980	37967	37953	37940	37927	37913	37900	37886	37873	859
156	846	832	819	806	792	779	765	752	739	725
157	712	699	685	672	659	646	632	619	606	592
158	579	566	553	539	526	513	500	487	473	460
159	447	434	421	408	394	381	368	355	342	329
160	316	303	290	276	263	250	237	224	211	198
161	185	172	159	146	133	37120	37107	37094	37081	37068
162	37056	37043	37030	37017	37004	36991	36978	36965	36952	36939
163	36927	36914	36901	36888	36875	863	850	837	824	811
164	799	786	773	760	748	735	722	710	697	684
165	671	659	646	633	621	608	596	583	570	558
166	545	532	520	507	495	482	469	457	444	432
167	419	407	394	382	369	357	344	332	319	307
168	294	282	269	257	245	232	220	207	195	183
169	170	158	145	133	36121	36108	36096	36084	36071	36059

TABLE I—Continued

ALTITUDE-PRESSURE TABLE—FEET-MILLIMETERS—Continued

p mm.	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
170	36046	36034	36022	36010	35997	35985	35973	35961	35948	35936
171	35924	35911	35899	35887	875	862	850	838	826	814
172	801	789	777	765	753	741	728	716	704	692
173	680	668	656	644	632	620	607	595	583	571
174	559	547	535	523	511	499	487	475	463	451
175	439	427	415	403	391	379	367	356	344	332
176	320	308	296	284	272	260	248	237	225	213
177	201	189	177	165	154	142	130	118	35106	35095
178	35083	35071	35059	35048	35036	35024	35012	35000	34989	34977
179	34965	34954	34942	34930	34918	34907	34895	34883	872	860
180	848	837	825	813	802	790	778	767	755	743
181	732	720	708	697	685	674	662	650	639	627
182	616	604	592	581	569	558	546	535	523	511
183	500	488	477	465	454	442	431	419	408	396
184	385	373	362	351	339	328	316	305	293	282
185	270	259	248	236	225	213	202	190	179	168
186	156	145	134	122	34111	34099	34088	34077	34065	34054
187	34043	34031	34020	34009	33997	33986	33975	33964	33952	33941
188	33930	33918	33907	33896	885	873	862	851	840	828
189	817	806	795	783	772	761	750	739	727	716
190	705	694	683	671	660	649	638	627	616	604
191	593	582	571	560	549	538	527	516	504	493
192	482	471	460	449	438	427	416	405	394	383
193	372	361	350	339	328	317	306	294	283	272
194	261	250	239	228	218	207	196	185	174	163
195	152	141	130	119	33108	33097	33086	33075	33064	33054
196	33043	33032	33021	33010	32999	32988	32977	32966	32956	32945
197	32934	32923	32912	32901	890	880	869	858	847	836
198	825	815	804	793	782	771	761	750	739	728
199	717	707	696	685	674	664	653	642	631	621

p mm.	0	0.2	0.4	0.6	0.8	p mm.	0	0.2	0.4	0.6	0.8
200	32610	32588	32567	32546	32524	230	29571	29552	29533	29514	29495
201	503	482	460	439	418	231	476	457	438	419	400
202	396	375	354	332	311	232	380	361	342	323	304
203	290	269	248	226	205	233	285	267	248	229	210
204	184	163	142	121	32100	234	191	171	153	134	115
205	32079	32058	32037	32016	31995	235	096	29077	29059	29040	29021
206	31974	31953	31932	31911	890	236	29002	28983	28965	28946	28927
207	869	848	828	807	786	237	28909	890	871	853	834
208	765	744	724	703	682	238	815	797	778	760	741
209	661	641	620	599	579	239	722	704	685	667	648
210	558	538	517	496	476	240	630	611	593	574	556
211	455	435	414	394	373	241	537	519	500	482	464
212	353	332	312	292	271	242	445	427	408	390	372
213	251	230	210	190	169	243	353	335	317	298	280
214	149	129	109	31088	31068	244	262	244	225	207	189
215	31048	31028	31007	30987	30967	245	171	153	134	116	098
216	30947	30927	30907	886	866	246	28080	28062	28044	28026	28008
217	846	826	806	786	766	247	27989	27971	27953	27935	27917
218	746	726	706	686	666	248	899	881	863	845	827
219	646	626	606	586	567	249	809	791	773	755	737
220	547	527	507	487	467	250	719	702	684	666	648
221	447	428	408	388	368	251	630	612	594	576	559
222	349	329	309	290	270	252	541	523	505	487	470
223	250	231	211	191	172	253	452	434	416	399	381
224	152	133	113	30093	30074	254	363	346	328	310	293
225	30054	30035	30015	29996	29976	255	275	257	240	222	204
226	29957	29938	29918	899	879	256	187	169	152	134	111
227	860	841	821	802	783	257	099	27082	27064	27047	27029
228	763	744	725	706	687	258	27012	26994	26977	26959	26942
229	667	648	629	610	590	259	26924	907	890	872	855

TABLE I—Continued

ALTITUDE-PRESSURE TABLE—FEET-MILLIMETERS—Continued

p mm.	0	0.2	0.4	0.6	0.8	p mm.	0	0.2	0.4	0.6	0.8
260	26838	26820	26803	26786	26768	330	21337	21323	21308	21294	21280
261	751	734	716	699	682	331	266	251	237	223	209
262	665	647	630	613	596	332	194	180	166	152	138
263	579	561	544	527	510	333	123	109	095	081	21067
264	493	476	458	441	424	334	21052	21038	21024	21010	20996
265	407	390	373	356	339	335	20982	20968	20953	20939	925
266	322	305	288	271	254	336	911	897	883	869	855
267	237	220	203	186	169	337	841	827	813	799	784
268	152	135	118	102	085	338	770	756	742	728	714
269	26068	26051	26034	26017	26000	339	700	686	672	658	644
270	25984	25967	25950	25933	25916	340	630	616	603	589	575
271	900	883	866	849	833	341	561	547	533	519	505
272	816	799	782	766	749	342	491	477	463	450	436
273	732	716	699	682	666	343	422	408	394	380	366
274	649	632	616	599	583	344	352	339	325	311	297
275	566	550	533	516	500	345	283	270	256	242	228
276	483	467	450	434	417	346	215	201	187	173	160
277	401	384	368	351	335	347	146	132	118	105	091
278	318	302	286	269	253	348	077	20064	20050	20036	20023
279	236	220	204	187	171	349	20009	19995	19982	19968	19954
280	154	138	122	106	089	350	19941	927	913	900	886
281	25073	25057	25040	25024	25008	351	872	859	845	832	818
282	24992	24975	24959	24943	24927	352	804	791	777	764	750
283	911	894	878	862	846	353	737	723	701	696	683
284	830	813	797	781	765	354	669	656	642	629	615
285	749	733	717	701	685	355	602	588	575	561	548
286	669	653	637	620	604	356	534	521	507	494	481
287	588	572	556	540	524	357	467	454	440	427	413
288	509	493	477	461	445	358	400	387	373	360	346
289	429	413	397	381	365	359	333	320	306	293	280
290	349	334	318	302	286	360	266	253	240	226	213
291	270	254	238	223	207	361	200	186	173	160	147
292	191	175	159	144	128	362	133	120	107	094	080
293	112	096	081	24065	24049	363	067	19054	19041	19027	19014
294	24033	24018	24002	23986	23971	364	19001	18988	18974	18961	18948
295	23955	23939	23924	908	892	365	18935	922	909	895	882
296	877	861	845	830	814	366	869	856	843	830	817
297	799	783	768	752	737	367	803	790	777	764	751
298	721	706	690	674	659	368	738	725	712	699	685
299	643	628	612	597	581	369	672	659	646	633	620
300	566	551	535	520	504	370	607	594	581	568	555
301	489	473	458	443	427	371	542	529	516	503	490
302	412	397	381	366	351	372	477	464	451	438	425
303	335	320	305	289	274	373	412	399	386	373	361
304	259	243	228	213	198	374	348	335	322	309	296
305	182	167	152	137	122	375	283	270	257	244	232
306	106	091	076	23061	23046	376	219	206	193	180	167
307	23031	23015	23000	22985	22970	377	154	141	129	116	103
308	22955	22940	22925	909	894	378	090	077	065	18052	18039
309	879	864	849	834	819	379	18026	18013	18001	17988	17975
310	804	789	774	759	744	380	17962	17950	17937	924	911
311	729	714	699	684	669	381	899	886	873	860	848
312	654	639	624	609	594	382	835	822	810	797	784
313	579	564	546	534	519	383	772	759	746	734	721
314	504	490	475	460	445	384	708	696	683	670	658
315	430	415	400	385	371	385	645	632	620	607	595
316	356	341	326	311	296	386	582	569	557	544	532
317	282	267	252	237	223	387	519	507	494	481	469
318	208	193	178	164	149	388	456	444	431	419	406
319	134	120	105	090	076	389	394	381	369	356	344
320	22061	22046	22032	22017	22002	390	331	319	306	294	281
321	21988	21973	21959	21944	21929	391	269	256	244	231	219
322	915	900	886	871	856	392	206	194	182	169	157
323	842	827	813	798	784	393	144	132	119	107	095
324	769	755	740	726	711	394	082	070	17057	17045	17033
325	697	682	668	653	639	395	17020	17008	16996	16983	16971
326	625	610	596	581	567	396	16958	16946	934	921	909
327	552	538	524	509	495	397	897	885	872	860	848
328	481	466	452	437	423	398	835	823	811	798	786
329	409	394	380	366	351	399	774	762	749	737	725

TABLE I—Continued

ALTITUDE-PRESSURE TABLE—FEET-MILLIMETERS—Continued

p mm.	0	0.2	0.4	0.6	0.8	p mm.	0	0.2	0.4	0.6	0.8
400	16713	16700	16688	16676	16664	470	12704	12693	12682	12671	12661
401	652	639	627	615	603	471	650	639	629	618	607
402	591	578	566	554	542	472	596	586	575	564	554
403	530	518	505	493	481	473	543	532	522	511	500
404	469	457	445	432	420	474	490	479	468	458	447
405	408	396	384	372	360	475	436	426	415	404	394
406	348	336	324	312	299	476	383	372	362	351	341
407	287	275	263	251	239	477	330	319	309	298	288
408	227	215	203	191	179	478	277	266	256	245	235
409	167	155	143	131	119	479	224	213	203	192	182
410	107	095	083	071	16059	480	171	161	150	140	129
411	16047	16035	16023	16011	15999	481	118	108	097	087	076
412	15987	15975	15963	15951	940	482	066	055	12045	12034	12024
413	928	916	904	892	880	483	12013	12003	11992	11982	11971
414	868	856	844	832	820	484	11961	11950	940	929	919
415	809	797	785	773	761	485	908	898	887	877	866
416	749	737	725	714	702	486	856	845	835	825	814
417	690	678	666	654	643	487	804	793	783	772	762
418	631	619	607	595	584	488	752	741	731	720	710
419	572	560	548	536	525	489	700	689	679	668	658
420	513	501	489	478	466	490	648	637	627	616	606
421	454	442	431	419	407	491	596	585	575	565	554
422	395	384	372	360	348	492	544	534	523	513	503
423	337	325	313	302	290	493	492	482	472	461	451
424	278	267	255	243	232	494	441	430	420	410	399
425	220	208	197	185	174	495	389	379	368	358	348
426	162	150	139	127	115	496	337	327	317	307	296
427	104	092	081	069	057	497	286	276	266	255	245
428	15046	15034	15023	15011	15000	498	235	225	214	204	194
429	14988	14976	14965	14953	14942	499	184	173	163	153	143
430	930	919	907	896	884	500	132	122	112	102	092
431	872	861	849	838	826	501	081	071	061	051	11041
432	815	803	792	780	769	502	11030	11020	11010	11000	10990
433	757	746	735	723	711	503	10980	10969	10959	10949	939
434	700	689	679	666	654	504	929	919	909	898	888
435	643	631	620	609	597	505	878	868	858	848	838
436	586	574	563	552	540	506	827	817	807	797	787
437	529	517	506	495	483	507	777	767	757	747	736
438	472	460	449	438	426	508	726	716	706	696	687
439	415	404	392	381	370	509	676	666	656	646	636
440	358	347	336	324	313	510	626	616	606	596	586
441	302	290	279	268	256	511	576	565	555	545	535
442	245	234	223	211	200	512	525	515	505	495	485
443	189	178	166	155	144	513	475	465	455	445	435
444	132	121	110	099	088	514	425	415	405	395	385
445	076	065	14054	14043	14031	515	375	365	355	345	336
446	14020	14009	13998	13987	13975	516	326	316	306	296	286
447	13964	13953	942	931	920	517	276	266	256	246	236
448	908	897	886	875	864	518	226	216	206	196	186
449	853	841	830	819	808	519	176	167	157	147	137
450	13797	786	775	763	752	520	127	117	107	097	087
451	741	730	719	708	697	521	078	068	058	10048	10038
452	686	675	664	653	641	522	10028	10018	10008	9999	9989
453	630	619	608	597	586	523	9979	9969	9959	9949	9940
454	575	564	553	542	531	524	9930	9920	9910	9900	9890
455	520	509	498	487	476	525	9881	9871	9861	9851	9841
456	465	454	443	432	421	526	9831	9822	9812	9802	9792
457	410	399	388	377	366	527	9782	9773	9763	9753	9743
458	355	344	333	322	311	528	9734	9724	9714	9704	9695
459	300	289	278	267	256	529	9685	9675	9665	9656	9646
460	245	234	224	213	202	530	9636	9626	9617	9607	9597
461	191	180	169	158	147	531	9587	9578	9568	9558	9548
462	136	125	115	104	093	532	9539	9529	9519	9510	9500
463	082	071	060	13049	13039	533	9490	9480	9471	9461	9451
464	13028	13017	13006	12995	12984	534	9442	9432	9422	9413	9403
465	12974	12963	12952	941	930	535	9393	9384	9374	9364	9355
466	919	908	898	887	876	536	9345	9335	9326	9316	9306
467	865	854	844	833	822	537	9297	9287	9277	9268	9258
468	811	801	790	779	768	538	9248	9239	9229	9220	9210
469	758	747	736	725	714	539	9200	9191	9181	9172	9162

TABLE I—Continued

ALTITUDE-PRESSURE TABLE—FEET-MILLIMETERS—Continued

p mm.	0	0.2	0.4	0.6	0.8	*p* mm.	0	0.2	0.4	0.6	0.8
540	9152	9143	9133	9124	9114	610	5956	5947	5939	5930	5921
541	9104	9095	9085	9076	9066	611	5913	5904	5895	5887	5878
542	9056	9047	9037	9028	9018	612	5869	5861	5852	5843	5835
543	9009	8999	8990	8980	8970	613	5826	5817	5809	5800	5791
544	8961	8951	8942	8932	8923	614	5783	5774	5765	5757	5748
545	8913	8904	8894	8885	8875	615	5739	5731	5722	5713	5705
546	8866	8856	8847	8837	8828	616	5696	5687	5679	5670	5662
547	8818	8809	8799	8790	8780	617	5653	5644	5636	5627	5619
548	8771	8761	8752	8742	8733	618	5610	5601	5593	5584	5576
549	8723	8714	8704	8695	8685	619	5567	5558	5550	5541	5533
550	8676	8666	8657	8647	8638	620	5524	5515	5507	5498	5490
551	8629	8619	8610	8600	8591	621	5481	5473	5464	5455	5447
552	8581	8572	8563	8553	8544	622	5438	5430	5421	5413	5404
553	8534	8525	8516	8506	8497	623	5396	5387	5378	5370	5361
554	8487	8478	8468	8459	8450	624	5353	5344	5336	5327	5319
555	8440	8431	8422	8412	8403	625	5310	5302	5293	5285	5276
556	8393	8384	8375	8365	8356	626	5267	5259	5250	5242	5233
557	8347	8337	8328	8318	8309	627	5225	5216	5208	5199	5191
558	8300	8290	8281	8272	8262	628	5182	5174	5165	5157	5148
559	8253	8244	8234	8225	8216	629	5140	5132	5123	5115	5106
560	8206	8197	8188	8178	8169	630	5098	5089	5081	5072	5064
561	8160	8150	8141	8132	8123	631	5055	5047	5038	5030	5021
562	8113	8104	8095	8085	8076	632	5013	5005	4996	4988	4979
563	8067	8058	8048	8039	8030	633	4971	4962	4954	4945	4937
564	8020	8011	8002	7993	7983	634	4929	4920	4912	4903	4895
565	7974	7965	7956	7946	7937	635	4886	4878	4870	4861	4853
566	7928	7919	7910	7900	7891	636	4844	4836	4828	4819	4811
567	7882	7873	7863	7854	7845	637	4802	4794	4786	4777	4769
568	7836	7826	7817	7808	7799	638	4760	4752	4744	4735	4727
569	7790	7780	7771	7762	7753	639	4718	4710	4702	4693	4685
570	7744	7734	7725	7716	7707	640	4677	4668	4660	4652	4643
571	7698	7689	7679	7670	7661	641	4635	4626	4618	4610	4601
572	7652	7643	7634	7624	7615	642	4593	4585	4576	4568	4560
573	7606	7597	7588	7579	7570	643	4551	4543	4535	4526	4518
574	7560	7551	7542	7533	7524	644	4510	4501	4493	4485	4476
575	7515	7506	7497	7487	7478	645	4468	4460	4452	4443	4435
576	7469	7460	7451	7442	7433	646	4427	4418	4410	4402	4393
577	7424	7415	7405	7396	7387	647	4385	4377	4369	4360	4352
578	7378	7369	7360	7351	7342	648	4344	4335	4327	4319	4311
579	7333	7324	7315	7306	7296	649	4302	4294	4286	4278	4269
580	7287	7278	7269	7260	7251	650	4261	4253	4244	4236	4228
581	7242	7233	7224	7215	7206	651	4220	4211	4203	4195	4187
582	7197	7188	7179	7170	7161	652	4178	4170	4162	4154	4146
583	7152	7143	7134	7125	7116	653	4137	4129	4121	4113	4104
584	7107	7098	7089	7080	7071	654	4096	4088	4080	4072	4063
585	7062	7053	7044	7035	7026	655	4055	4047	4039	4030	4022
586	7017	7008	6999	6990	6981	656	4014	4006	3998	3990	3981
587	6972	6963	6954	6945	6936	657	3973	3965	3957	3949	3940
588	6927	6918	6909	6900	6891	658	3932	3924	3916	3908	3899
589	6882	6873	6864	6855	6847	659	3891	3883	3875	3867	3859
590	6838	6829	6820	6811	6802	660	3850	3842	3834	3826	3818
591	6793	6784	6775	6766	6757	661	3810	3802	3793	3785	3777
592	6748	6739	6730	6722	6713	662	3769	3761	3753	3745	3736
593	6704	6695	6686	6677	6668	663	3728	3720	3712	3704	3696
594	6659	6650	6642	6633	6624	664	3688	3680	3671	3663	3655
595	6615	6606	6597	6588	6579	665	3647	3639	3631	3623	3615
596	6571	6562	6553	6544	6535	666	3607	3598	3590	3582	3574
597	6526	6517	6509	6500	6491	667	3566	3558	3550	3542	3534
598	6482	6473	6464	6456	6447	668	3526	3518	3509	3501	3493
599	6438	6429	6420	6411	6403	669	3485	3477	3469	3461	3453
600	6394	6385	6376	6367	6359	670	3445	3437	3429	3421	3413
601	6350	6341	6332	6323	6315	671	3405	3397	3389	3381	3372
602	6306	6297	6288	6279	6271	672	3364	3356	3348	3340	3332
603	6262	6253	6244	6236	6227	673	3324	3316	3308	3300	3292
604	6218	6209	6200	6192	6183	674	3284	3276	3268	3260	3252
605	6174	6165	6157	6148	6139	675	3244	3236	3228	3220	3212
606	6130	6122	6113	6104	6096	676	3204	3196	3188	3180	3172
607	6087	6078	6069	6061	6052	677	3164	3156	3148	3140	3132
608	6043	6034	6026	6017	6008	678	3124	3116	3108	3100	3092
609	6000	5991	5982	5974	5965	679	3084	3076	3068	3060	3052

TABLE I—Continued

ALTITUDE-PRESSURE TABLE—FEET-MILLIMETERS—Continued

p mm.	0	0.2	0.4	0.6	0.8	*p* mm.	0	0.2	0.4	0.6	0.8
680	3044	3036	3028	3020	3012	740	736	728	721	714	706
681	3004	2996	2989	2981	2973	741	699	691	684	676	669
682	2965	2957	2949	2941	2933	742	662	654	647	639	632
683	2925	2917	2909	2901	2893	743	624	617	610	602	595
684	2885	2877	2869	2862	2854	744	587	580	573	565	558
685	2846	2838	2830	2822	2814	745	550	543	536	528	521
686	2806	2798	2790	2782	2775	746	513	506	499	491	484
687	2767	2759	2751	2743	2735	747	476	469	462	454	447
688	2727	2719	2711	2704	2696	748	440	432	425	417	410
689	2688	2680	2672	2664	2656	749	403	395	388	381	373
690	2648	2640	2633	2625	2617	750	366	359	351	344	336
691	2609	2601	2593	2585	2578	751	329	322	314	307	300
692	2570	2562	2554	2546	2538	752	292	285	278	270	263
693	2531	2523	2515	2507	2499	753	256	248	241	234	226
694	2491	2483	2476	2468	2460	754	219	212	204	197	190
695	2452	2444	2437	2429	2421	755	182	175	168	161	153
696	2413	2405	2397	2390	2382	756	146	139	131	124	117
697	2374	2366	2358	2351	2343	757	109	102	95	87	80
698	2335	2327	2319	2312	2304	758	73	66	58	51	44
699	2296	2288	2280	2273	2265	759	36	29	22	15	7
700	2257	2249	2242	2234	2226	760	0	−7	−15	−22	−29
701	2218	2210	2203	2195	2187	761	−36	44	51	58	65
702	2179	2172	2164	2156	2148	762	−73	80	87	94	102
703	2141	2133	2125	2117	2110	763	−109	116	124	131	138
704	2102	2094	2086	2079	2071	764	−145	153	160	167	174
705	2063	2055	2048	2040	2032	765	−181	189	196	203	210
706	2024	2017	2009	2001	1994	766	−218	225	232	239	247
707	1986	1978	1970	1963	1955	767	−254	261	268	275	283
708	1947	1940	1932	1924	1916	768	−290	297	304	312	319
709	1909	1901	1893	1886	1878	769	−326	333	340	348	355
710	1870	1863	1855	1847	1840	770	−362	369	376	384	391
711	1832	1824	1817	1809	1801	771	−398	405	412	420	427
712	1793	1786	1778	1770	1763	772	−434	441	448	456	463
713	1755	1747	1740	1732	1724	773	−470	477	484	491	499
714	1717	1709	1702	1694	1686	774	−506	513	520	527	534
715	1679	1671	1663	1656	1648	775	−542	549	556	563	570
716	1640	1633	1625	1617	1610	776	−577	585	592	599	606
717	1602	1595	1587	1579	1572	777	−613	620	627	635	642
718	1564	1556	1549	1541	1534	778	−649	656	663	670	677
719	1526	1518	1511	1503	1496	779	−685	692	699	706	713
720	1488	1480	1473	1465	1458	780	−720	727	735	742	749
721	1450	1442	1435	1427	1420	781	−756	763	770	777	784
722	1412	1404	1397	1389	1382	782	−791	799	806	813	820
723	1374	1366	1359	1351	1344	783	−827	834	841	848	855
724	1336	1329	1321	1313	1306	784	−863	870	877	884	891
725	1298	1291	1283	1276	1268	785	−898	905	912	919	926
726	1261	1253	1245	1238	1230	786	−933	941	948	955	962
727	1223	1215	1208	1200	1193	787	−969	976	983	990	997
728	1185	1178	1170	1162	1155	788	−1004	011	018	025	032
729	1147	1140	1132	1125	1117	789	−1040	1047	1054	1061	1068
730	1110	1102	1095	1087	1080	790	−1075				
731	1072	1065	1057	1050	1042						
732	1035	1027	1020	1012	1005						
733	997	990	982	975	967						
734	960	952	945	937	930						
735	922	915	907	900	892						
736	885	877	870	863	855						
737	848	840	833	825	818						
738	810	803	795	788	780						
739	773	766	758	751	743						

TABLE II

ALTITUDE-PRESSURE TABLE—FEET-INCHES

p inches	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
3.4	50228	50167	50104	50044	49982	49922	49862	49801	49741	49680
3.5	49620	49561	49501	49442	49382	49323	49264	49206	49147	49089
3.6	49030	48972	48915	48857	48799	48741	48684	48627	48570	48513
3.7	48456	48400	48344	48288	48232	48175	48120	48065	48009	47954
3.8	47898	47843	47789	47734	47679	47624	47570	47516	47462	47408
3.9	47354	47301	47248	47194	47141	47088	47035	46982	46930	46877
4.0	46824	46772	46720	46668	46616	46564	46513	46461	46410	463 8
4.1	46307	46256	46206	46155	46104	46053	46003	45953	45903	45853
4.2	45803	45753	45704	45654	45605	45555	45506	45458	45408	45359
4.3	45310	45262	45213	45165	45117	45068	45020	44973	44925	44877
4.4	44829	44782	44734	44687	44640	44592	44546	44499	44452	44405
4.5	44358	44312	44266	44220	44173	44127	44081	44036	43990	43944
4.6	43898	43853	43808	43762	43717	43672	43627	43582	43537	43492
4.7	43448	43403	43359	43315	43270	43226	43182	43138	43094	43050
4.8	43007	42963	42920	42876	42833	42790	42747	42704	42661	42618
4.9	42575	532	490	447	42404	42362	42320	42278	42236	42193
5.0	42151	42110	42068	42026	41985	41943	41902	41861	41819	41778
5.1	41737	41696	41655	41614	573	532	492	451	411	41370
5.2	41330	41290	41250	41210	41170	41130	41090	41050	41011	40971
5.3	40931	40892	40853	40813	40774	40735	40696	40657	40618	579
5.4	540	502	463	425	386	40347	40309	40271	40233	40195
5.5	40156	40118	40080	40043	40005	39967	39929	39892	39854	39816
5.6	39779	39742	39704	39667	39630	593	556	519	482	445
5.7	408	372	39335	39298	39262	39225	39189	39153	39117	39080
5.8	39044	39008	38972	38936	38900	38864	38829	38793	38757	38722
5.9	38686	38651	615	580	545	509	474	439	404	369
6.0	38343	38300	38265	38230	38200	38161	38126	38092	38057	38023
6.1	37989	37954	37920	37886	37852	37818	37784	37750	37716	37682
6.2	648	615	581	547	514	480	447	413	380	346
6.3	37313	37280	37247	37214	37181	37147	37115	37082	37049	37016
6.4	36983	36951	36918	36886	36853	36820	36788	36756	36723	36691
6.5	659	627	595	563	531	498	467	435	403	371
6.6	339	36308	36276	36245	36213	36181	36150	36119	36087	36056
6.7	36024	35993	35962	35931	35900	35869	35838	35807	35776	35745
6.8	35714	683	653	622	591	560	530	499	469	438
6.9	408	378	347	317	35287	35257	35227	35197	35167	35136
7.0	35106	35077	35047	35017	34987	34957	34927	34898	34868	34838
7.1	34809	34779	34749	34720	690	661	631	602	573	543
7.2	514	485	455	426	397	368	339	310	34281	34251
7.3	34222	34194	34165	34136	34107	34078	34049	34020	33992	33963
7.4	33934	33906	33877	33848	33820	33791	33763	33734	706	678
7.5	649	621	593	564	536	508	480	452	424	395
7.6	367	339	311	283	33255	33227	33200	33172	33144	33116
7.7	33088	33061	33033	33005	32978	32950	32922	32895	32867	32840
7.8	32812	32785	32758	32730	703	676	648	621	594	567
7.9	539	512	485	458	431	404	377	350	323	296
8.0	269	32242	32215	32188	32161	32135	32108	32081	32054	32028
8.1	32001	31975	31948	31921	31895	31868	31842	31815	31789	31763
8.2	31736	710	684	657	631	605	578	552	526	500
8.3	474	448	422	396	370	344	318	292	266	31240
8.4	31214	31188	31163	31137	31111	31085	31060	31034	31008	30983
8.5	30957	30931	30906	30880	30855	30829	30804	30778	30753	728
8.6	702	677	652	626	601	576	550	525	500	475
8.7	449	424	399	374	349	324	299	274	249	30224
8.8	30199	30174	30149	30125	30100	30075	30050	30025	30001	29976
8.9	29951	29927	29902	29877	29853	29828	29804	29779	29755	730
9.0	706	681	657	633	608	584	560	535	511	487
9.1	462	438	414	390	366	342	317	293	269	245
9.2	29221	29197	29173	29149	29125	29101	29077	29053	29029	29005
9.3	28982	28958	28934	28910	28887	28863	28839	28816	28792	28768
9.4	745	721	698	674	650	627	603	580	556	533
9.5	510	486	463	439	416	393	369	346	323	300
9.6	276	253	230	28207	28184	28161	28138	28115	28092	28069
9.7	28046	28023	28000	27977	27954	27931	27908	27885	27862	27839
9.8	27816	27794	27771	748	725	702	680	657	634	612
9.9	589	566	544	521	499	476	453	431	408	386

TABLE II—Continued

ALTITUDE-PRESSURE TABLE—FEET-INCHES—Continued

p inches	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
10. 0	27363	27341	27318	27296	27274	27251	27229	27206	27184	27162
10. 1	27140	27117	27095	27073	27050	27028	27006	26984	26962	26940
10. 2	26917	26895	26873	26851	26829	26807	26785	763	741	719
10. 3	697	676	654	632	610	588	566	544	523	501
10. 4	479	457	436	414	392	371	349	327	306	284
10. 5	262	241	219	26198	26176	26155	26133	26112	26090	26069
10. 6	26048	26026	26005	25984	25962	25941	25919	25898	25877	25856
10. 7	25834	25813	25792	771	749	728	707	686	665	644
10. 8	622	601	580	559	538	517	496	475	454	433
10. 9	412	391	370	350	329	308	287	266	245	224
11. 0	25204	25183	25162	25141	25121	25100	25079	25059	25038	25017
11. 1	24996	24976	24955	24935	24914	24894	24873	24852	24832	24811
11. 2	791	770	750	730	709	689	668	648	628	607
11. 3	587	567	546	526	506	486	465	445	425	405
11. 4	384	364	344	324	304	284	263	243	223	203
11. 5	24183	24163	24143	24123	24103	24083	24063	24043	24023	24003
11. 6	23983	23963	23944	23924	23904	23884	23864	23844	23824	23805
11. 7	785	765	745	726	706	686	666	647	627	607
11. 8	588	568	549	529	509	490	470	451	431	412
11. 9	392	373	353	334	314	295	275	256	237	217
12. 0	198	23178	23159	23140	23121	23101	23082	23063	23043	23024
12. 1	23005	22986	22966	22947	22928	22909	22890	22870	22851	22832
12. 2	22813	794	775	756	737	718	698	679	660	641
12. 3	622	603	584	565	547	528	509	490	471	452
12. 4	433	414	395	377	358	339	320	301	282	264
12. 5	245	226	207	189	22170	22151	22133	22114	22095	22077
12. 6	22058	22040	22021	22002	21984	21965	21947	21928	21910	21891
12. 7	21872	21854	21836	21817	799	780	762	743	725	706
12. 8	688	670	651	633	615	596	578	560	542	523
12. 9	505	487	469	450	432	414	396	377	359	341
13. 0	323	305	287	268	250	232	214	196	21178	21160
13. 1	21142	21124	21106	21088	21070	21052	21034	21016	20998	20980
13. 2	20962	20944	20926	20908	20890	20873	20855	20837	819	801
13. 3	783	765	748	730	712	694	677	659	641	623
13. 4	605	588	570	552	535	517	499	482	464	446
13. 5	429	411	394	376	358	341	323	306	288	271
13. 6	253	236	218	201	183	20166	20149	20131	20114	20096
13. 7	20079	20061	20044	20027	20009	19992	19975	19957	19940	19922
13. 8	19905	19888	19871	19853	19836	819	802	784	767	750
13. 9	733	715	698	681	664	647	630	613	595	578
14. 0	561	544	527	510	493	476	459	442	425	408
14. 1	391	374	357	340	323	306	289	272	255	238
14. 2	221	204	187	170	19154	19137	19120	19103	19086	19069
14. 3	19052	19036	19019	19002	18985	18969	18952	18935	18918	18902
14. 4	18885	18868	18852	18835	818	802	785	768	752	735
14. 5	718	702	685	668	652	635	619	602	586	569
14. 6	553	536	520	503	487	470	454	437	421	404
14. 7	388	371	355	339	322	306	289	273	257	240
14. 8	224	208	191	175	18159	18142	18126	18110	18093	18077
14. 9	18061	18045	18028	18012	17996	17980	17963	17947	17931	17915
15. 0	17899	17882	17866	17850	834	818	802	786	770	754
15. 1	737	721	705	689	673	657	641	625	609	593
15. 2	577	561	545	529	513	497	481	465	449	433
15. 3	417	402	386	370	354	338	322	306	290	275
15. 4	259	243	227	211	196	180	164	17148	17132	17117
15. 5	17101	17085	17069	17054	17038	17022	17007	16991	16975	16959
15. 6	16944	16928	16912	16897	16881	16866	16850	834	819	803
15. 7	787	772	756	741	725	710	694	679	663	648
15. 8	632	617	601	586	570	555	539	524	508	493
15. 9	477	462	447	431	416	400	385	370	354	339
16. 0	324	308	293	278	262	247	232	216	201	186
16. 1	171	155	16140	16125	16110	16094	16079	16064	16049	16034
16. 2	16018	16003	15988	15973	15958	15943	15927	15912	15897	15882
16. 3	15867	15852	837	822	806	791	776	761	746	731
16. 4	716	701	686	671	656	641	626	611	596	581
16. 5	566	551	536	521	506	491	476	461	446	431
16. 6	416	402	387	372	357	342	327	312	298	283
16. 7	268	253	238	224	209	194	179	164	150	15135
16. 8	15120	15105	15091	15076	15061	15047	15032	15017	15002	14988
16. 9	14973	14958	14944	14929	14914	14900	14885	14870	14856	841

TABLE II—Continued

ALTITUDE-PRESSURE TABLE—FEET-INCHES—Continued

p inches	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
17. 0	14826	14812	14797	14783	14768	14753	14739	14724	14710	14695
17. 1	681	666	652	637	622	608	594	579	564	550
17. 2	536	521	507	492	478	463	449	434	420	406
17. 3	391	377	362	348	334	319	305	291	276	262
17. 4	247	233	219	204	190	176	162	147	14133	14119
17. 5	14104	14090	14076	14062	14047	14033	14019	14005	13990	13976
17. 6	13962	13948	13934	13919	13905	13891	13877	13863	849	834
17. 7	820	806	792	778	764	750	736	722	707	693
17. 8	679	665	651	637	623	609	595	581	567	553
17. 9	539	525	511	497	483	469	455	441	427	413
18. 0	399	385	371	357	343	329	315	301	287	274
18. 1	260	246	232	218	204	190	176	163	149	13135
18. 2	13121	13107	13094	13080	13066	13052	13038	13025	13011	12997
18. 3	12983	12970	12956	12942	12928	12915	12901	12887	12873	860
18. 4	846	832	819	805	791	778	764	750	736	723
18. 5	709	695	682	668	655	641	627	614	600	587
18. 6	573	559	546	532	519	505	492	478	464	451
18. 7	437	424	410	397	383	370	356	343	329	316
18. 8	302	289	275	262	249	235	222	208	195	181
18. 9	168	155	141	12128	12114	12101	12088	12074	12061	12048
19. 0	12034	12021	12008	11994	11981	11968	11954	11941	11928	11914
19. 1	11901	11888	11874	861	848	835	821	808	795	781
19. 2	768	755	742	729	715	702	689	676	663	649
19. 3	636	623	610	597	584	570	557	544	531	518
19. 4	505	491	478	465	452	439	426	413	400	387
19. 5	374	360	347	334	321	308	295	282	269	256
19. 6	243	230	217	204	191	178	165	152	139	11126
19. 7	11113	11100	11087	11074	11061	11048	11035	11023	11010	10997
19. 8	10984	10971	10958	10945	10932	10919	10906	10894	10881	868
19. 9	855	842	829	816	804	791	778	765	752	739
20. 0	726	714	701	688	675	662	650	637	624	611
20. 1	599	586	573	560	548	535	522	509	497	484
20. 2	471	459	446	433	421	408	395	383	370	357
20. 3	344	332	319	307	294	281	269	256	243	231
20. 4	218	206	193	180	168	155	143	130	10117	10105
20. 5	10092	10080	10067	10055	10042	10030	10017	10005	9992	9980
20. 6	9967	9955	9942	9930	9917	9905	9892	9880	9867	9855
20. 7	9842	9830	9817	9805	9793	9780	9768	9755	9743	9730
20. 8	9718	9706	9693	9681	9668	9656	9644	9631	9619	9607
20. 9	9594	9582	9570	9557	9545	9532	9520	9508	9495	9483
21. 0	9471	9458	9446	9434	9422	9409	9397	9385	9372	9360
21. 1	9348	9336	9323	9311	9299	9287	9274	9262	9250	9238
21. 2	9225	9213	9201	9189	9176	9164	9154	9140	9128	9116
21. 3	9103	9091	9079	9067	9055	9043	9030	9018	9006	8994
21. 4	8982	8970	8958	8946	8933	8921	8909	8897	8885	8873
21. 5	8861	8849	8837	8825	8813	8801	8789	8776	8764	8752
21. 6	8740	8728	8716	8704	8692	8680	8668	8656	8644	8632
21. 7	8620	8608	8596	8584	8572	8560	8548	8536	8524	8512
21. 8	8500	8489	8477	8465	8453	8441	8429	8417	8405	8393
21. 9	8381	8369	8357	8346	8334	8322	8310	8298	8286	8274
22. 0	8262	8250	8239	8227	8215	8203	8191	8179	8168	8156
22. 1	8144	8132	8120	8109	8097	8085	8073	8061	8050	8038
22. 2	8026	8014	8003	7991	7979	7967	7956	7944	7932	7920
22. 3	7909	7897	7885	7873	7862	7850	7838	7827	7815	7803
22. 4	7791	7780	7768	7756	7745	7733	7721	7710	7698	7686
22. 5	7675	7663	7652	7640	7628	7617	7605	7593	7582	7570
22. 6	7559	7547	7535	7524	7512	7501	7489	7478	7466	7454
22. 7	7443	7431	7420	7408	7397	7385	7374	7362	7350	7339
22. 8	7327	7316	7304	7293	7281	7270	7258	7247	7235	7224
22. 9	7212	7201	7189	7178	7167	7155	7144	7132	7121	7109
23. 0	7098	7086	7075	7064	7052	7041	7029	7018	7006	6995
23. 1	6984	6972	6961	6949	6938	6927	6915	6904	6893	6881
23. 2	6870	6858	6847	6836	6824	6813	6802	6790	6779	6768
23. 3	6756	6745	6734	6722	6711	6700	6688	6677	6666	6655
23. 4	6643	6632	6621	6610	6598	6587	6576	6564	6553	6542
23. 5	6531	6519	6508	6497	6486	6475	6463	6452	6441	6430
23. 6	6418	6407	6396	6385	6374	6363	6351	6340	6329	6318
23. 7	6307	6296	6284	6273	6262	6251	6240	6229	6218	6206
23. 8	6195	6184	6173	6162	6151	6140	6129	6118	6106	6095
23. 9	6084	6073	6062	6051	6040	6029	6018	6007	5996	5985

TABLE II—Continued

ALTITUDE-PRESSURE TABLE—FEET-INCHES—Continued

p inches	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
24. 0	5974	5962	5951	5940	5929	5918	5907	5896	5885	5874
24. 1	5863	5852	5841	5830	5819	5808	5797	5786	5775	5764
24. 2	5753	5742	5731	5720	5709	5698	5687	5676	5666	5655
24. 3	5644	5633	5622	5611	5600	5589	5578	5567	5555	5545
24. 4	5534	5524	5513	5502	5491	5480	5469	5458	5447	5436
24. 5	5425	5415	5404	5393	5382	5371	5360	5350	5339	5328
24. 6	5317	5306	5295	5285	5274	5263	5252	5241	5230	5220
24. 7	5209	5198	5187	5176	5166	5155	5144	5133	5123	5112
24. 8	5101	5090	5080	5069	5058	5047	5037	5026	5015	5004
24. 9	4994	4983	4972	4961	4951	4940	4929	4919	4908	4897
25. 0	4886	4876	4865	4854	4844	4833	4822	4812	4801	4790
25. 1	4780	4769	4758	4748	4737	4726	4716	4705	4695	4684
25. 2	4673	4663	4652	4642	4631	4620	4610	4599	4588	4578
25. 3	4567	4557	4546	4536	4525	4514	4504	4493	4483	4472
25. 4	4462	4451	4440	4430	4419	4409	4398	4388	4377	4367
25. 5	4356	4346	4335	4325	4314	4304	4293	4283	4272	4262
25. 6	4251	4241	4230	4220	4209	4199	4188	4178	4167	4157
25. 7	4146	4136	4125	4115	4105	4094	4084	4073	4063	4052
25. 8	4042	4032	4021	4011	4000	3990	3980	3969	3959	3948
25. 9	3938	3928	3917	3907	3896	3886	3876	3865	3855	3845
26. 0	3834	3824	3814	3803	3793	3782	3772	3762	3751	3741
26. 1	3731	3720	3710	3700	3689	3679	3669	3659	3648	3638
26. 2	3628	3617	3607	3597	3586	3576	3566	3556	3545	3535
26. 3	3525	3515	3504	3494	3484	3474	3463	3453	3443	3433
26. 4	3422	3412	3402	3392	3382	3371	3361	3351	3341	3331
26. 5	3320	3310	3300	3290	3279	3269	3259	3249	3239	3229
26. 6	3218	3208	3198	3188	3178	3168	3157	3147	3137	3127
26. 7	3117	3107	3097	3086	3076	3066	3056	3046	3036	3026
26. 8	3016	3005	2995	2985	2975	2965	2955	2945	2935	2925
26. 9	2915	2905	2895	2884	2874	2864	2854	2844	2834	2824
27. 0	2814	2804	2794	2784	2774	2764	2754	2744	2734	2724
27. 1	2714	2704	2694	2684	2674	2664	2654	2644	2634	2624
27. 2	2614	2604	2594	2584	2574	2564	2554	2544	2534	2524
27. 3	2514	2504	2494	2484	2474	2464	2454	2444	2434	2425
27. 4	2415	2405	2395	2385	2375	2365	2355	2345	2335	2325
27. 5	2315	2306	2296	2286	2276	2266	2256	2246	2236	2226
27. 6	2217	2207	2197	2187	2177	2167	2158	2148	2138	2128
27. 7	2118	2108	2098	2089	2079	2069	2059	2049	2040	2030
27. 8	2020	2010	2000	1990	1981	1971	1961	1951	1942	1932
27. 9	1922	1912	1902	1893	1883	1873	1863	1854	1844	1834
28. 0	1824	1814	1805	1795	1785	1776	1766	1756	1746	1737
28. 1	1727	1717	1707	1698	1688	1678	1668	1659	1649	1639
28. 2	1630	1620	1610	1601	1591	1581	1572	1562	1552	1542
28. 3	1533	1523	1513	1504	1494	1484	1475	1465	1456	1446
28. 4	1436	1427	1417	1407	1398	1388	1378	1369	1359	1350
28. 5	1340	1330	1321	1311	1302	1292	1282	1273	1263	1254
28. 6	1244	1234	1225	1215	1206	1196	1186	1177	1167	1158
28. 7	1148	1139	1129	1120	1110	1100	1091	1081	1072	1062
28. 8	1053	1043	1034	1024	1015	1005	995	986	976	967
28. 9	957	948	938	929	919	910	900	891	881	872
29. 0	863	853	844	834	825	815	806	796	787	777
29. 1	768	758	749	739	730	721	711	702	692	683
29. 2	673	664	655	645	636	626	617	607	598	589
29. 3	579	570	560	551	542	532	523	514	504	495
29. 4	485	476	467	457	448	439	429	420	410	401
29. 5	392	382	373	364	354	345	336	326	318	308
29. 6	298	289	280	270	261	252	242	233	224	215
29. 7	205	196	187	177	168	159	149	140	131	122
29. 8	112	103	94	85	75	66	57	47	38	29
29. 9	20	10	+1	−8	−17	−26	−36	−45	−54	−63

TABLE II—Continued

ALTITUDE-PRESSURE TABLE—FEET-INCHES—Continued

p inches	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
30. 0	−73	−82	−91	−100	−110	−119	−128	−137	−146	−156
30. 1	−165	174	183	192	202	211	220	229	238	248
30. 2	−257	266	275	284	293	303	312	321	330	339
30. 3	−348	358	367	376	385	394	403	412	421	431
30. 4	−440	449	458	467	476	485	494	504	513	522
30. 5	−531	540	549	558	567	576	585	594	604	613
30. 6	−622	631	640	649	658	667	676	685	694	703
30. 7	−712	721	730	740	749	758	767	776	785	794
30. 8	−803	812	821	830	839	848	857	866	875	884
30. 9	−893	902	911	920	929	938	947	956	965	974
31. 0	−983	992	1001	1010	1019	1028	1037	1046	1055	1064

TABLE III

ALTITUDE-PRESSURE-TEMPERATURE TABLE

Altitude, feet	Pressure		Temperature, °C.	Mean temperature, °C.	Isothermal altitude (+10° C.), feet
	in. Hg.	mm. Hg.			
−1000	31. 02	787. 9	+17. 0	+16. 0	−1010
−500	30. 47	773. 8	16. 0	15. 5	−510
0	29. 921	760. 0	15. 0	15. 0	−10
+500	29. 38	746. 4	14. 0	14. 5	+480
+1, 000	28. 86	732. 9	13. 0	14. 0	+980
1, 500	28. 33	719. 7	12. 0	13. 5	1, 480
2, 000	27. 82	706. 6	11. 0	13. 0	1, 980
2, 500	27. 31	693. 8	10. 0	12. 5	2, 470
3, 000	26. 81	681. 1	9. 1	12. 0	2, 980
3, 500	26. 32	668. 6	8. 1	11. 5	3, 480
4, 000	25. 84	656. 3	7. 1	11. 0	3, 990
4, 500	23. 36	644. 2	6. 1	10. 5	4, 500
5, 000	24. 89	632. 3	5. 1	10. 0	5, 020
5, 500	24. 43	620. 6	4. 1	9. 5	5, 520
6, 000	23. 98	609. 0	3. 1	9. 0	6, 040
6, 500	23. 53	597. 6	2. 1	8. 5	6, 550
7, 000	23. 09	586. 4	1. 1	8. 0	7, 070
7, 500	22. 65	575. 3	+0. 1	7. 5	7, 600
8, 000	22. 22	564. 4	−0. 8	7. 0	8, 110
8, 500	21. 80	553. 7	−1. 8	6. 5	8, 640
9, 000	21. 38	543. 2	−2. 8	6. 0	9, 160
9, 500	20. 98	532. 8	−3. 8	5. 5	9, 690
10, 000	20. 58	522. 6	−4. 8	5. 0	10, 220
10, 500	20. 18	512. 5	−5. 8	4. 5	10, 750
11, 000	19. 79	502. 6	−6. 8	4. 0	11, 280
11, 500	19. 40	492. 8	−7. 8	3. 5	11, 820
12, 000	19. 03	483. 3	−8. 8	2. 9	12, 360
12, 500	18. 65	473. 8	−9. 8	2. 4	12, 890
13, 000	18. 29	464. 5	−10. 8	1. 9	13, 440
13. 500	17. 93	455. 4	−11. 7	1. 4	13, 980
14, 000	17. 57	446. 4	−12. 7	0. 9	14, 520
14, 500	17. 22	437. 5	−13. 7	+0. 4	15, 070
15, 000	16. 88	428. 8	−14. 7	−0. 1	15, 620
15, 500	16. 54	420. 2	−15. 7	−0. 6	16, 170
16, 000	16. 21	411. 8	−16. 7	−1. 2	16, 730
16, 500	15. 89	403. 5	−17. 7	−1. 7	17, 280
17, 000	15. 56	395. 3	−18. 7	−2. 2	17, 830
17, 500	15. 25	387. 3	−19. 7	−2. 7	18, 400
18, 000	14. 94	379. 4	−20. 7	−3. 2	18, 960
18, 500	14. 63	371. 7	−21. 7	−3. 7	19, 520
19, 000	14. 33	364. 0	−22. 6	−4. 3	20, 100
19, 500	14. 04	356. 5	−23. 6	−4. 8	20, 660

TABLE III—Continued

ALTITUDE-PRESSURE-TEMPERATURE TABLE—Continued

Altitude, feet	Pressure		Temperature, °C.	Mean temperature, °C.	Isothermal altitude (+10° C.), feet
	in. Hg.	mm Hg.			
20, 000	13. 75	349. 1	−24. 6	−5. 3	21, 240
20, 500	13. 46	341. 9	−25. 6	−5. 8	21, 800
21, 000	13. 18	334. 7	−26. 6	−6. 3	22, 380
21, 500	12. 90	327. 7	−27. 6	−6. 9	22, 960
22, 000	12. 63	320. 8	−28. 6	−7. 4	23, 550
22, 500	12. 36	314. 1	−29. 6	−7. 9	24, 120
23, 000	12. 10	307. 4	−30. 6	−8. 4	24, 710
23, 500	11. 84	300. 9	−31. 6	−9. 0	25, 300
24, 000	11. 59	294. 4	−32. 5	−9. 5	25, 890
24, 500	11, 34	288. 1	−33. 5	−10. 0	26, 480
25, 000	11. 10	281. 9	−34. 5	−10. 5	27, 080
25, 500	10. 86	275. 8	−35. 5	−11. 1	27, 680
26, 000	10. 62	269. 8	−36. 5	−11. 6	28, 280
26, 500	10. 39	263. 9	−37. 5	−12. 1	28, 880
27, 000	10. 16	258. 1	−38. 5	−12. 7	29, 490
27, 500	9. 94	252. 5	−39. 5	−13. 2	30, 090
28, 000	9. 72	246. 9	−40. 5	−13. 7	30, 700
28, 500	9. 50	241. 4	−41. 5	−14. 3	31, 310
29, 000	9. 29	236. 0	−42. 5	−14. 8	31, 930
29, 500	9. 08	230. 7	−43. 4	−15. 3	32, 550
30, 000	8. 88	225. 6	−44. 4	−15. 9	33, 160
30, 500	8. 68	220. 5	−45. 4	−16. 4	33, 790
31, 000	8. 48	215. 5	−46. 4	−16. 9	34, 420
31, 500	8. 29	210. 6	−47. 4	−17. 5	35, 040
32, 000	8. 10	205. 8	−48. 4	−18. 0	35, 680
32, 500	7. 91	201. 0	−49. 4	−18. 6	36, 320
33, 000	7. 73	196. 4	−50. 4	−19. 1	36, 950
33, 500	7. 55	191. 8	−51. 4	−19. 6	37, 590
34, 000	7. 38	187. 4	−52. 4	−20. 2	38. 220
34, 500	7. 20	183. 0	−53. 4	−20. 7	38, 870
35, 000	7. 04	178. 7	−54. 3	−21. 3	39, 520
35, 332	6. 93	175. 9	−55. 0	−21. 6	39, 960
35, 500	6. 87	174. 5	−55. 0	−21. 8	40, 160
36, 000	6. 71	170. 4	−55. 0	−22. 3	40, 820
36, 500	6. 55	166. 4	−55. 0	−22. 8	41, 470
37, 000	6. 39	162. 4	−55. 0	−23. 3	42, 130
37, 500	6. 24	158. 6	−55. 0	−23. 8	42, 780
38, 000	6. 10	154. 9	−55. 0	−24. 3	43, 440
38, 500	5. 95	151. 2	−55. 0	−24. 8	44, 090
39, 000	5. 81	147. 6	−55. 0	−25. 2	44, 750
39, 500	5. 68	144. 1	−55. 0	−25. 6	45, 410
40, 000	5. 54	140. 7	−55. 0	−26. 0	46, 060
40, 500	5. 41	137. 4	−55. 0	−26. 4	46, 710
41, 000	5. 28	134. 2	−55. 0	−26. 8	47, 350
41, 500	5. 16	131. 0	−55. 0	−27. 2	48, 010
42, 000	5. 04	127. 9	−55. 0	−27. 6	48, 670
42, 500	4. 92	124. 9	−55. 0	−28. 0	49, 320
43, 000	4. 80	122. 0	−55. 0	−28. 3	49, 960
43, 500	4. 69	119. 1	−55. 0	−28. 6	50, 610
44, 000	4. 58	116. 3	−55. 0	−29. 0	51, 260
44, 500	4. 47	113. 5	55. 0	−29. 3	51, 930
45, 000	4. 36	110. 8	−55. 0	−29. 6	52, 590
45, 500	4. 26	108. 2	−55. 0	−29. 9	53, 240
46, 000	4. 16	105. 7	−55. 0	−30. 2	53, 870
46, 500	4. 06	103. 2	−55. 0	−30. 5	54, 530
47. 000	3. 97	100. 7	−55. 0	−30. 8	55, 200
47, 500	3. 87	98. 4	−55. 0	−31. 1	55, 830
48, 000	3. 78	96. 1	−55. 0	−31. 4	56, 480
48, 500	3. 69	93. 8	−55. 0	−31. 7	57, 140
49, 000	3. 61	91. 6	−55. 0	−31. 9	57, 790
49, 500	3. 52	89. 4	−55. 0	−32. 2	58, 450
50, 000	3. 44	87. 3	−55. 0	−32. 4	59, 100

TABLE IV

TEMPERATURE CORRECTION TABLE

Mean temperature, °C.	Standard altitude, in feet									
	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000
−35									2,120	2,219
−34									2,053	2,144
−33									1,987	2,069
−32									1,920	1,994
−31									1,853	1,920
−30				1,057	1,258	1,433	1,579	1,698	1,786	1,845
−29				1,029	1,222	1,389	1,528	1,639	1,720	1,770
−28				1,000	1,186	1,346	1,477	1,580	1,653	1,696
−27				971	1,150	1,302	1,426	1,521	1,586	1,621
−26				943	1,114	1,259	1,375	1,462	1,520	1,546
−25	266	507	724	914	1,078	1,215	1,324	1,403	1,453	1,472
−24	259	493	702	886	1,042	1,172	1,273	1,344	1,386	1,397
−23	252	479	681	857	1,006	1,128	1,221	1,286	1,319	1,322
−22	245	465	660	829	970	1,085	1,170	1,227	1,253	1,247
−21	238	451	639	800	934	1,041	1,119	1,168	1,186	1,173
−20	231	437	617	771	898	998	1,068	1,109	1,119	1,098
−19	224	423	596	743	862	954	1,017	1,050	1,053	1,023
−18	217	409	575	714	826	911	966	991	986	949
−17	210	395	553	686	790	867	915	932	919	874
−16	203	381	532	657	755	824	864	874	852	799
−15	196	367	511	629	719	780	813	815	786	725
−14	189	353	490	600	683	737	761	756	719	650
−13	182	338	468	571	647	693	710	697	652	575
−12	175	324	447	543	611	650	659	638	585	500
−11	168	310	426	514	575	606	608	579	519	426
−10	161	296	405	486	539	563	557	520	452	351
−9	154	282	383	457	503	519	506	462	385	276
−8	147	268	362	429	467	476	455	403	319	202
−7	140	254	341	400	431	432	404	344	252	127
−6	133	240	319	371	395	389	353	285	185	52
−5	126	226	298	343	359	345	301	226	118	22
−4	119	212	277	314	323	302	250	167	52	97
−3	112	197	256	286	287	258	199	108	15	172
−2	105	183	234	257	251	215	148	50	82	247
−1	98	169	213	229	215	171	97	9	148	321

Values above the zigzag line are to be subtracted; those below, to be added.

TABLE IV—Continued

TEMPERATURE CORRECTION TABLE—Continued

Mean temperature, ° C.	Standard altitude, in feet									
	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000
0	91	155	192	200	179	128	46	68	215	396
1	84	141	171	171	143	84	5	127	282	471
2	77	127	149	143	107	41	56	186	349	545
3	70	113	128	114	71	3	107	245	415	620
4	63	99	107	86	35	46	159	304	482	695
5	56	85	85	57	1	90	210	362	549	769
6	49	71	64	29	37	133	261	421	616	844
7	42	57	43	0	73	177	312	480	682	919
8	35	43	22	29	109	220	363	539	749	994
9	28	28	0	57	145	263	414	598	816	1,068
10	21	14	21	86	181	307	465	657	882	1,143
11	14	0	42	114	217	350	516	716	949	1,218
12	7	14	64	143	253	394	568	774	1,016	1,292
13	0	28	85	171	289	437	619	833	1,083	1,367
14	7	42	106	200	325	481	670	892	1,149	1,442
15	14	58	127	229	361	524	721	951	----	----
16	21	70	149	257	397	568	772	1,010	----	----
17	28	84	170	286	432	611	823	1,069	----	----
18	35	98	191	314	468	655	874	1,128	----	----
19	42	112	212	343	504	698	925	1,186	----	----
20	49	126	234	371	540	742	----	----	----	----
21	56	141	255	400	576	785	----	----	----	----
22	63	155	276	429	612	829	----	----	----	----
23	70	169	298	457	648	872	----	----	----	----
24	77	183	319	486	684	916	----	----	----	----
25	84	197	340	----	----	----	----	----	----	----
26	91	211	361	----	----	----	----	----	----	----
27	98	225	383	----	----	----	----	----	----	----
28	105	239	404	----	----	----	----	----	----	----
29	112	253	425	----	----	----	----	----	----	----
30	119	267	446	----	----	----	----	----	----	----

Values above the zigzag line are to be subtracted; those below, to be added.

TABLE IV—Continued

TEMPERATURE CORRECTION TABLE—Continued

Mean temperature, °C.	Standard altitud in feet									
	22,000	24,000	26,000	28,000	30,000	32,000	34,000	36,000	38,000	40,000
−35	2,287	2,323	2,327	2,297	2,233	2,132	1,994	1,819	1,635	1,452
−34	2,204	2,232	2,227	2,189	2,116	2,006	1,859	1,675	1,483	1,290
−33	2,121	2,141	2,128	2,082	1,999	1,881	1,725	1,532	1,330	1,128
−32	2,038	2,050	2,029	1,974	1,883	1,755	1,590	1,388	1,177	966
−31	1,956	1,959	1,929	1,866	1,766	1,630	1,456	1,244	1,024	804
−30	1,873	1,868	1,830	1,758	1,649	1,504	1,321	1,101	872	642
−29	1,790	1,777	1,730	1,650	1,533	1,379	1,187	957	719	480
−28	1,707	1,686	1,631	1,542	1,416	1,253	1,052	814	566	318
−27	1,624	1,595	1,531	1,434	1,299	1,128	918	670	413	156
−26	1,541	1,504	1,432	1,326	1,183	1,002	783	526	260	6
−25	1,459	1,413	1,332	1,218	1,066	877	649	383	108	168
−24	1,376	1,322	1,233	1,110	949	751	514	239	45	330
−23	1,293	1,230	1,134	1,002	833	626	380	96	198	492
−22	1,210	1,139	1,034	894	716	500	245	48	351	654
−21	1,127	1,048	935	786	599	375	111	192	504	816
−20	1,044	957	835	678	483	249	24	335	656	978
−19	962	866	736	570	366	124	158	479	809	1,140
−18	879	775	636	462	249	2	292	623	962	1,302
−17	796	684	537	354	133	127	427	766	1,115	1,463
−16	713	593	437	246	16	252	561	910	1,268	1,625
−15	630	502	338	138	101	378	696	1,053	1,420	1,787
−14	548	411	239	30	217	503	830	1,197	1,573	1,949
−13	465	320	139	78	334	629	965	1,341	1,726	2,111
−12	382	229	40	186	451	754	1,099	1,484	1,879	2,273
−11	299	138	60	294	567	880	1,234	1,628	2,031	2,435
−10	216	46	159	402	684	1,005	1,368	1,772	2,184	2,597
−9	133	45	259	510	801	1,131	1,503	1,915	2,337	2,759
−8	51	136	358	618	917	1,256	1,637	2,059	2,490	2,921
−7	32	227	458	726	1,034	1,382	1,772	2,202	2,643	3,083
−6	115	318	557	834	1,151	1,507	1,906	2,346	2,795	3,245
−5	198	409	656	942	1,267	1,633	2,041	2,490	----------	----------
−4	281	500	756	1,050	1,384	1,758	2,175	2,633	----------	----------
−3	364	591	855	1,158	1,501	1,884	2,310	2,777	----------	----------
−2	446	682	955	1,266	1,617	2,009	2,444	2,921	----------	----------
−1	529	773	1,054	1,374	1,734	2,135	2,579	3,064	----------	----------
0	612	864	1,154	1,482	1,851	2,260	----------	----------	----------	----------
+1	695	955	1,253	1,590	1,967	2,386	----------	----------	----------	----------
2	778	1,047	1,353	1,698	2,084	2,511	----------	----------	----------	----------
3	861	1,138	1,452	1,806	2,201	2,637	----------	----------	----------	----------
4	943	1,229	1,551	1,914	2,317	2,762	----------	----------	----------	----------
5	1,026	1,320	1,651	2,022	----------	----------	----------	----------	----------	----------
6	1,109	1,411	1,750	2,130	----------	----------	----------	----------	----------	----------
7	1,192	1,502	1,850	2,238	----------	----------	----------	----------	----------	----------
8	1,275	1,593	1,949	2,346	----------	----------	----------	----------	----------	----------
9	1,358	1,684	2,049	2,454	----------	----------	----------	----------	----------	----------
10	1,440	1,775	----------	----------	----------	----------	----------	----------	----------	----------
11	1,523	1,866	----------	----------	----------	----------	----------	----------	----------	----------
12	1,606	1,957	----------	----------	----------	----------	----------	----------	----------	----------
13	1,689	2,048	----------	----------	----------	----------	----------	----------	----------	----------
14	1,772	2,139	----------	----------	----------	----------	----------	----------	----------	----------

Values above the zigzag line are to be subtracted; those below to be added.

42488—27——27

TABLE IV—Continued

TEMPERATURE CORRECTION TABLE—Continued

Mean temperature, °C.	Standard altitude, in feet					
	40,000	42,000	44,000	46,000	48,000	50,000
−40	2, 262	2, 124	1, 987	1, 849	1, 711	1, 574
−39	2, 100	1, 953	1, 806	1, 659	1, 513	1, 366
−38	1, 938	1, 782	1, 626	1, 470	1, 314	1, 158
−37	1, 776	1, 611	1, 446	1, 280	1, 115	950
−36	1, 614	1, 440	1, 265	1, 091	917	742
−35	1, 452	1, 269	1, 085	901	718	535
−34	1, 290	1, 097	905	712	519	327
−33	1, 128	926	724	522	321	119
−32	966	755	544	333	122	89
−31	804	584	364	143	77	297
−30	642	413	183	46	275	505
−29	480	242	3	236	474	712
−28	318	71	177	425	673	920
−27	156	101	357	615	871	1, 128
−26	6	272	538	804	1, 070	1, 336
−25	168	443	718	993	1, 269	1, 544
−24	330	614	898	1, 183	1, 467	1, 752
−23	492	785	1, 079	1, 372	1, 666	1, 959
−22	654	956	1, 259	1, 562	1, 865	2, 167
−21	816	1, 128	1, 439	1, 751	2, 063	2, 375
−20	978	1, 299	1, 620	1, 941	2, 262	2, 583
−19	1, 140	1, 470	1, 800	2, 130	2, 461	2, 791
−18	1, 302	1, 641	1, 980	2, 320	2, 659	2, 999
−17	1, 463	1, 812	2, 161	2, 509	2, 858	3, 206
−16	1, 625	1, 983	2, 341	2, 699	3, 057	3, 414
−15	1, 787	2, 154	2, 521	2, 888	3, 255	3, 622
−14	1, 949	2, 326	2, 702	3, 078	3, 454	3, 830
−13	2, 111	2, 497	2, 882	3, 267	3, 653	4, 038
−12	2, 273	2, 668	3, 062	3, 457	3, 851	4, 246
−11	2, 435	2, 839	3, 243	3, 646	4, 050	4, 453
−10	2, 597	3, 010				
−9	2, 759	3, 181				
−8	2, 921	3, 352				
−7	3, 083	3, 524				
−6	3, 245	3, 695				
−5	3, 407	3, 866				

Values above the zigzag line are to be substracted; those below, to be added.